Remarks

Claims 1-10 are pending.

Claims 1, 2, 4-6, 9, and 10 were rejected under 35 USC 103(a) as being unpatentable over Parulski et al. (US Patent No. 5,914,748) in view of Brady et al. (US Patent No. 5,684,898).

Parulski teaches creating a difference image by subtracting the color components (R, G, B) of one image from another. See Parulski, Figure 5 and col. 3, line 67, through col. 4, line 5. Similarly, Brady teaches generating a difference image (col. 6, lines 38-41), first, then applying a weighting curve to the difference image data (col. 6, lines 39-45). Neither reference, nor the combination thereof, computes the difference image and the probability map simultaneously.

As amended, claim 1 requires that the classifying process produce both a classification and a probability map simultaneously. As can be seen in Applicant's specification, on page 5, lines 12-21, the classification itself is based upon a probability, so the classification and the probability map are produced simultaneously.

With regard to the further refining step, neither reference, nor the combination thereof teaches "refining said classification and probability map to ensure proper classification." Parulski teaches refining a difference image, which is not the same classification as the probability function applied to the pixels in the invention as claimed in claim 1, and does not even mention the use of probabilities at all.

While Brady mentions using a pre-defined curve for a probability weighting, see col. 8, lines 11-13, no operations are performed on the probability weighting itself, nor is the probability map produce by application of the formula used to also classify the pixels. The probability map of Brady is produced using a pre-defined function, such an inverse Gaussian curve. See Brady, col. 7, lines 35-36.

Docket No. 8371-054   **Page 4 of 7**   Application No. 09/225,189

As amended, claim 1 requires that the classification and the probability map are both

refined. This is possible because the classification is based upon the probability map. See

Applicant's specification, page 6, line 12 through page 7, line 5.

With regard to the formula, the formula in claim 1 uses both the chromatic

components, such as R, G, B, or Ycb, Ycr, *and* the intensity of the pixel, such as I or Y, in the

one formula. In Parulski, the difference image is produced using only the chromatic

components, RGB. See Figure 5. In Brady, the difference image is produced using only the

intensity is used. See col. 7, lines 36-39. The combination of references would not teach

using both, as each reference teaches using a different measure to compute the difference

image. Combining them to create the reference image would be inoperable.

As amended, claim 1 requires that the formula use both the chromatic components

and the intensity. See Applicant's specification page 5, line 12, through page 6, line 3.

Further, with regard to the probability map, it is used differently in the combination of

reference than in the invention as claimed. As discussed above, the probability map is the

basis of the classification between foreground and background and is used in the feathering

function. In Brady the probability function based upon the inverse Gaussian curve is used to

alter the classification. Further, while Parulski mentions border feathering, it does not

mention feathering based upon the probability map, and Brady does not mention feather at

all, much less based upon the probability function.

It is therefore submitted that claim 1 is patentably distinguishable over the prior art

and allowance of this claim is requested.

Claims 2, 4-6 and 9-10 depend from claim 1 and inherently contain all of the

limitations of that claim. As discussed above, the prior art does not teach, show nor suggest

all of the limitations of the base claim, much less the further embodiments of the dependent

claims. It is therefore submitted that claims 2, 4-6 and 9-10 are patentably distinguishable over the prior art and allowance of these claims is requested.

Claim 3 was rejected under 35 USC 103(a) as being unpatentable over Parulski et al., in view of Brady et al. and in further view of Gehrmann (US Patent No. 5,382,980).

As discussed above with regard to the combination of Parulski and Brady, the combination of references does not teach the limitations of amended claim 1. Claim 3 depends from claim 1 and inherently includes all of the limitations of the base claim. The addition of Gehrmann to the combination does not overcome this deficiency. It is therefore submitted that claim 3 is patentably distinguishable over the prior art and allowance of this claim is requested.

Claim 7 was rejected under 35 USC 103(a) as being unpatentable over Parulski et al., Brady et al. and in further view of Jang (US Patent No. 5,825,909).

Claim 7 depends from claim 1 and inherently contains all of the limitations of the base claim. As discussed above, the combination of Parulski and Brady do not teach applying refining the classification and the probability map. Parulski mentions refining the classification, but does not mention probabilities at all. Brady mentions using a probability function to refine a classification, but not refining the probability function itself. The addition of Jang discussing using anisotropic diffusion for image smoothing would only add the application of image smoothing to the classification, not to the probability map, as is required by claim 1. Further, Jang mentions using anisotropic diffusion *prior to segmentation* (classification), while Parulski mentions refinement *to the difference image* (segmented image of Jang). It is therefore submitted that claim 7 is patentably distinguishable over the prior art and allowance of this claim is requested.
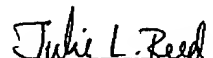
Claim 8 was rejected under 35 USC 103(a) as being unpatentable over Parulski et al., in view of Brady et al., and in further view of Gardos et al. (US Patent No. 5,710,602).

Docket No. 8371-054   Page 6 of 7   Application No. 09/225,189

Claim 8 depends from claim 1 and inherently contains all of the limitations of the base claim. As discussed above, the combination of Parulski and Brady do not teach applying refining the classification and the probability map. Parulski mentions refining the classification, but does not mention probabilities at all. Brady mentions using a probability function to refine a classification, but not refining the probability function itself. The addition of Gardos discussing using morphological filtering for image smoothing would only add the application of image smoothing to the classification, not to the probability map, as is required by claim 1. It is therefore submitted that claim 8 is patentably distinguishable over the prior art and allowance of this claim is requested.

No new matter has been added by this amendment. Allowance of all claims is requested. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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